

---

## Tales from the Annuity Frontier

---

By Kerry Pechter     *Thu, Jan 7, 2016*

---

*Three pioneers in the creative use of annuities in retirement portfolios--Wade Pfau, Joe Tomlinson, and Steve Vernon--have created an "efficient frontier" for deferred income annuities in two reports published in November by the Society of Actuaries.*

---

The term "efficient frontier" usually refers to Harry Markowitz' famous scatter chart, which is often used to show the optimal investment portfolio for any risk-free interest rate. But in recent years the same concept has been used to illustrate the optimal investments-to-annuities ratio in an income-generating retirement portfolio.

Moshe Milevsky and Peng Chen are considered the first to have framed "product allocations" in this way, but others have followed. In November, the Society of Actuaries published two reports by Wade Pfau, Joe Tomlinson and Steve Vernon that, in effect, plots the relative risks and returns of various annuity/investment strategies.

One report evaluates deferred income annuities (DIAs) and the second evaluates Qualified Longevity Annuity Contracts (QLACs), as ways to add a lifetime income element to defined contribution plans. Although the reports are designed to educate plan sponsors, they establish basic principles that advisors and individual retirees can use.

Brief summaries of these reports can be found below. Anyone who wants to take a deep dive into these rich reports can download them [here](#) and [here](#).

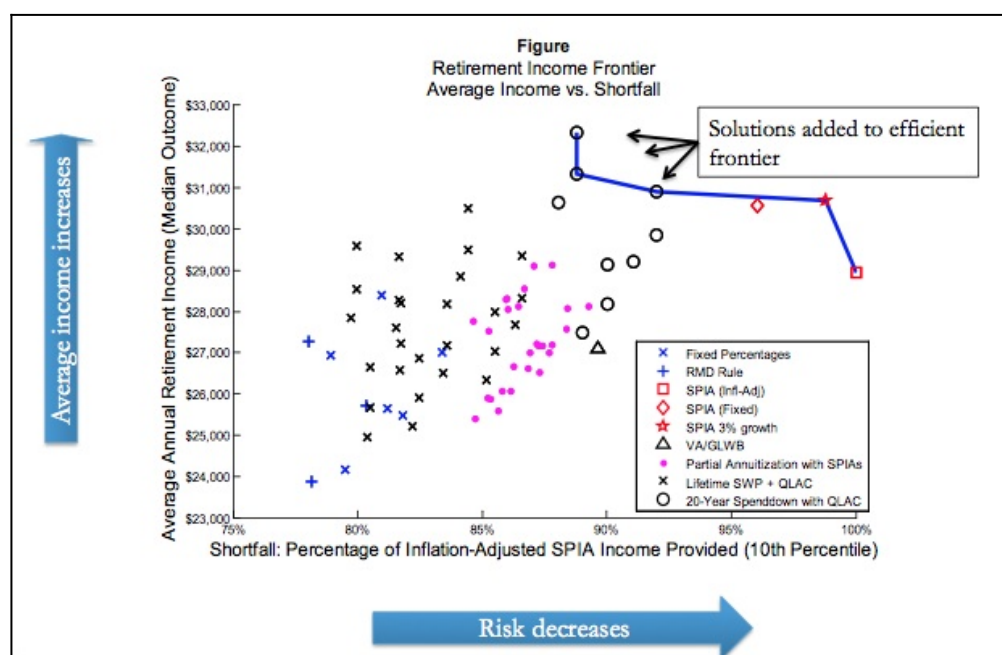
### **A quick look at QLACs**

The first of the two analyses ("Phase 3" of the five-part "Optimal Retirement Income Solutions for Defined Contribution Plans" developed by the Stanford Center on Longevity and the Society of Actuaries) is called "Using QLACs to Design Retirement Income Solutions."

QLACs are still quite new. Several retail versions were issued in 2015, mainly by insurers that already built DIAs, which are non-qualified and have fewer restrictions. Purchased with up to 25% of an individual's qualified savings (to a maximum of \$125,000), QLACs allow owners to remove longevity tail risk while deferring their required minimum distributions on the QLAC premium beyond age 70 1/2 (until as late as age 85).

The efficient frontier chart below is based on the hypothetical case of a single female, age

65, with \$250,000 in qualified savings. Represented here are the median real average incomes from a variety of income strategies, including systematic withdrawals (fixed percentage and by RMD percentage), full and partial use of single premium immediate annuities (SPIAs), and the purchase of fixed or inflation-adjusted life-only QLACs for income starting at age 85, with either a 100% spend-down of assets between ages 65 and 85 or a systematic withdrawal plan across the entire lifespan. The median income (x-axis) includes Social Security of about \$17,000 per year. The QLAC-plus-20-year-spend-down strategies are represented by black circles.



The chart shows that strategies using QLACs and a distribution of the remaining savings (invested in up to 100% equities) between ages 65 and 85 offer the optimal combinations of income and shortfall risk. Partial annuitization with SPIAs offer almost as much safety but less income, while QLACs coupled with a SWP of other assets over the whole lifetime offers almost as much income but less safety. All three annuity-linked strategies outperform the pure SWP strategies.

If the client wants to make sure that there's a smooth transition from his pre-QLAC income to his QLAC income (starting at age 85) the researchers recommend putting 20% of savings in the QLAC instead of 15% and withdrawing about 3% to 4% of savings over the entire life expectancy rather than over the 20 years between ages 65 and 85.

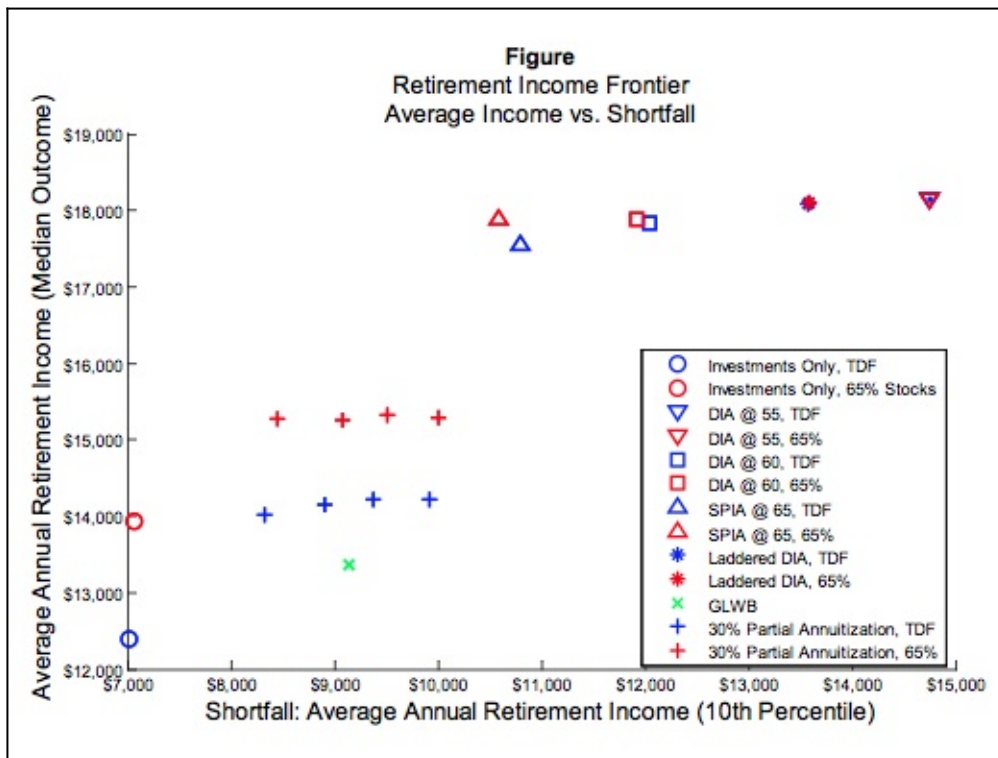
It's worth noting that age 85 is the *maximum* QLAC start date. Income can be taken earlier, albeit with reduced tax benefits. Note also that the QLACs are life-only. QLACs with death

benefits before the income start date or cash refunds after the income start date would offer less monthly income but greater security for survivors.

**Using DIAs in the red zone**

In Phase 4 of the study, entitled “Strategies to Protect Retirement Income Before Retirement,” Vernon, Pfau and Tomlinson weigh the merits of fixed-payout DIAs—contracts, in this case, that are purchased either five or 10 years before the retirement/income start date—as protection against sequence of returns risk (the risk of a ruinous market crash within five years of retirement). As in their Phase 3 analysis, the conclusion favors the use of life-only annuities.

One of their examples involves a 55-year-old couple with \$300,000 in combined savings. As you can see from the efficient frontier chart below, the riskiest solutions (lower left) are those that keep all money invested (in a target date fund or a 65/35 balanced fund) for life after age 55. The variable annuity with a GLWB (4.5% payout at age 65; no deferral bonuses) isn’t much better.



But adding an annuity to the portfolio increases the expected median annual income and lowers the risk of a shortfall at the same time. While 100% life-only annuitization offers the highest income with the least chance of shortfall, the chart shows that partial annuitizations

(red crosses and blue crosses) can serve as compromises for people who want to preserve some liquidity.

Note that, probably because of the relatively short time periods involved, it doesn't make much difference whether the couple "ladders" their investments in the DIA or if they keep their money invested in a TDF or a 65/35 portfolio before fully investing in a DIA. But note that, because of its heavier tilt to equities, a 65% stock portfolio outperforms the TDF when used in conjunction with a partial annuitization.

### **Individual client applications**

Both of these studies are aimed at acquainting plan sponsors with the available options for adding annuities to defined contribution plans. But few plan sponsors have yet shown a big interest in doing so. With people changing jobs every few years, the employee-employer bond is only weakening. Plan sponsors have also made it clear that until the Labor Department gives them an explicit "safe harbor" option—protecting them from liability in the case that their annuity provider fails—they'll resist the use of "in plan" annuities that involve long-term relationships with life insurers.

A fifth and final phase of the SOA's "Optimal Retirement Income Solutions for Defined Contribution Plans" study is expected this spring. A similar study focusing on the needs of retail clients is planned for the future, an SOA spokesman said.

Phases 3 and 4 should be useful in their current version for individual advisors who want to serve mass-affluent clients. The case studies here reflect the needs of plan participants, many of whom will fall into the mass-affluent demographic. These are the "constrained" or "orange zone" clients that Canadian advisor/author Jim Otar has talked and written about.

More so than either the wealthy (who can self-insure) or the poor (the 50% of Americans with no investments), mass-affluent retirees will need a combination of delayed retirement, partial annuitization and/or home equity release (through downsizing or reverse mortgages) in order to maintain a satisfactory lifestyle. These two analyses by Pfau, Vernon and Tomlinson illuminate the potential of QLACs and DIAs to maximize retirement income and minimize longevity risk.